EXHIBIT "B"

1: Gene. 2002 Jan 23;283(1-2):49-62.

Related Articles, Li

ELSEVIER FULL-TEXT ARTICLE

Cloning, expression analysis, and structural characterization of seven novel human ADAMTSs, a family of metalloproteinases with disintegrin and thrombospondin-1 domains.

Cal S, Obaya AJ, Llamazares M, Garabaya C, Quesada V, Lopez-Otin C

Departamento de Bioquimica y Biologia Molecular, Facultad de Medicina, Instituto Universitario de Oncologia, Universidad de Oviedo, 33006, Oviedo Spain.

ADAMTS (A Disintegrin And Metalloproteinase domain, with ThromboSpondin type-1 modules) is a recently described family of zinc-dependent proteases which play important roles in a variety of normal and pathological conditions, including arthritis and cancer. In this work, we repor the identification and cloning of cDNAs encoding seven new human ADAMTSs. These novel enzymes have been called ADAMTS-13, -14, -15, -16, -17, -18, and -19. All of them show a domain organization similar to that previously characterized family members, consisting of a signal sequence, a propeptide, a metalloproteinase domain, a disintegrin-like domain, a cysteine rich region, and a variable number of TS-1 repeats. Expression analysis revealed that these ADAMTS genes are mainly expressed in fetal tissues, especially in lung (ADAMTS14, ADAMTS16, ADAMTS17, ADAMTS18, a ADAMTS19), kidney (ADAMTS14, ADAMTS15, and ADAMTS16), and liver (ADAMTS13, ADAMTS15 and ADAMTS18). Reverse transcriptase--polymerase chain reaction analysis also revealed the expression of some of these new ADAMTSs in different human adult tissues, such as prostate (ADAMTS13, ADAMTS17, and ADAMTS18), and brain (ADAMTS13, ADAMTS16, ADAMTS17, and ADAMTS18). High levels of ADAMTSs transcripts were also observed in some tumor biopsies and cells lines, includi osteosarcomas (ADAMTS19), melanoma and colon carcinoma cells (ADAMTS13). Chromosomal location analysis indicated that the seven identified ADAMTS genes are dispersed in the human genome mapping to 9q34, 10q21, 11q25, 5p15, 15q24, 16q23, and 5q31, respectively. According these results, together with a comparative analysis of ADAMTSs in other eukaryotic organisms, we conclude that these enzymes, with at least 18 distir members encoded within the human genome, represent an example of a wide expanded protease family during metazoan evolution.

PMID: 11867212 [PubMed - indexed for MEDLINE]

Display Abstract Show: 20 Sort Send to Text

Nov 3 2003 06:5